AMENDMENTS

In the Claims:

1. (Previously presented) A method for identifying a substance that is likely to prevent or diminish a specific biological response in a subject having an inflammatory disease-associated genotype, said method comprising the steps of:

a) observing in a test subject having an inflammatory disease-associated genotype a biomarker;

b) contacting said test subject with a test substance;

c) observing again in said test subject said biomarker; and,

d) administering an inducer to the test subject prior to or concomitant with observing said biomarker,

wherein a change in said biomarker from an inflammatory disease-associated phenotype to a non-inflammatory disease-associated phenotype identifies a test substance that is likely to prevent or diminish the specific biological response in a subject having said inflammatory disease-associated genotype.

2. (Previously presented) A method of claim 1, wherein said subject has at least one inflammatory disease-associated allele selected from the group consisting of IL-1A, IL-1B, IL-1RN, TNFA and IL-13.

3. (Previously presented) A method of claim 1, wherein said subject has at least one inflammatory disease-associated allele from the IL-1 44112332 haplotype or the IL-1 33221461 haplotype.

4. (Previously presented) A method of claim 1, wherein said subject has at least one allele selected from the group consisting of allele 1 of IL-1A (+4845), allele 4 of IL-1A

(222/223), allele 4 of IL-1A (gz5/gz6), allele 1 of IL-1A (-889), allele 2 of IL-1B (-511) , allele 3 of gaat.p33330, allele 3 of Y31, allele 2 of IL-1RN (+2018), allele 2 of IL-1RN (1731), allele 2 of IL-1RN (1812), allele 2 of IL-1RN (1868), allele 2 of IL-1RN (1887), allele 2 of IL-1RN (8006), allele 2 of IL-1RN (8061), allele 2 of IL-1RN (9589), allele 2 of IL-1A (+4845), allele 3 of IL-1A (222/223), allele 3 of IL-1A (gz5/gz6), allele 2 of IL-1A (-889), allele 1 of IL-1B (-511), allele 4 of gaat.p33330, allele 6 of Y31, allele 1 of IL-1RN (+2018), allele 2 of IL-1B (+6912), allele 2 of TNFA (-308), allele 2 of TNFA (-238), and allele 2 of IL-13 (+2581).

5. (Previously presented) A method of claim 1, wherein said inflammatory disease-associated genotype is associated with a predisposition to a disease selected from the group consisting of periodontal disease, coronary artery disease, atherosclerosis, Alzheimer's disease, osteoporosis, insulin-dependent diabetes, diabetic retinopathy, end-stage renal disease, diabetic nephropathy, hepatic fibrosis, alopecia areata, Graves' disease, Graves' opthalmopathy, extrathyroid disease, systemic lupus erythematosus, lichen sclerosis, rheumatoid arthritis, juvenile chronic arthritis, gastric cancer, ulcerative colitis, asthma, multiple sclerosis, interstitial lung disease, idiopathic pulmonary fibrosis, sepsis and acne.

6. (Previously presented) A method of claim 1, wherein said subject is homozygous for an allele selected from the group consisting of: allele 1 of IL-1A (+4845), allele 4 of IL-1A (222/223), allele 4 of IL-1A (gz5/gz6), allele 1 of IL-1A (-889), allele 2 of IL-1B (-511) , allele 3 of gaat.p33330, allele 3 of Y31, allele 2 of IL-1RN (+2018), allele 2 of IL-1RN (1731), allele 2 of IL-1RN (1812), allele 2 of IL-1RN (1868), allele 2 of IL-1RN (1887), allele 2 of IL-1RN (8006), allele 2 of IL-1RN (8061), allele 2 of IL-1RN (9589), allele 2 of IL-1A (+4845), allele 3 of IL-1A (222/223), allele 3 of IL-1A (gz5/gz6), allele 2 of IL-1A (-889), allele 1 of IL-1B (-511), allele 4 of gaat.p33330, allele 6 of Y31, allele 1 of IL-1RN (+2018), allele 2 of IL-1B (+6912), allele 2 of TNFA (-308), allele 2 of TNFA (-238), and allele 2 of IL-13 (+2581).

7. (Previously presented) A method of claim 2, wherein said biomarker is selected from the group consisting of: electrocardiogram parameters, pulmonary function, core body

temperature, blood or urine IL-1α levels, blood or urine IL-1β levels, blood levels of soluble IL-1 receptors, blood or urine IL-13 levels, blood or urine IL-6 levels, blood or urine TNFα levels, blood levels of stable eicosanoids, nitric oxide levels, white blood cell count, blood lipid levels, red blood cell count, platelet count, blood iron levels, blood zinc levels, blood neopterin level, blood reactive oxygen species, blood levels of C reactive protein, blood levels of fibrinogen, steroid hormone levels, standard urine parameters, size of skin erythema, and duration of skin erythema.

8. (Cancelled)

9. (Previously presented) A method of claim 1, wherein said inducer comprises exercise sufficient to cause exercise induced stress.

10. (Previously presented) A method of claim 9, wherein said exercise is a treadmill stress test.

11. (Previously presented) A method of claim 1, wherein said inducer comprises a subcutaneous injection of an irritant.

12. (Previously presented) A method of claim 11, wherein said irritant induces a monocytic inflammatory response.

13. (Previously presented) A method of claim 11, wherein the irritant is urate crystals.

14. (Previously presented) A method of claim 11 wherein the irritant is monosodium urate crystals.

15. (Previously presented) A method of claim 11, wherein said at least one biomarker includes the dimensions or duration of skin erythrema resulting from said subcutaneous injection.

16. (Previously presented) A method for identifying a substance that is likely to prevent or diminish a specific biological response in a subject having an inflammatory disease-associated genotype, said method comprising the steps of:

a) providing a cell from a test subject, having an inflammatory disease-associated genotype;

b) observing in said cell, or a cell propagated therefrom, a biomarker;

c) contacting said cell with a test substance;

d) observing again in said cell said biomarker; and

e) contacting said cells with an inducer prior to or concomitant observing said biomarker,

wherein a change in said biomarker from an inflammatory disease-associated phenotype to a non-inflammatory disease-associated phenotype identifies a test substance that is likely to prevent or diminish the specific biological response in a subject.

17. (Previously presented) A method of claim 16, wherein said subject having an inflammatory disease-associated genotype has at least one inflammatory disease-associated allele selected from the group consisting of IL-1A, IL-1B, IL-1RN, TNFA and IL-13.

18. (Previously presented) A method of claim 16, wherein said subject has at least one inflammatory disease-associated allele from the IL-1 44112332 haplotype or the IL-1 33221461 haplotype.

19. (Previously presented) A method of claim 16, wherein said subject has at least one allele selected from the group consisting of allele 1 of IL-1A (+4845), allele 4 of IL-1A (222/223), allele 4 of IL-1A (gz5/gz6), allele 1 of IL-1A (-889), allele 2 of IL-1B (-511) , allele 3 of gaat.p33330, allele 3 of Y31, allele 2 of IL-1RN (+2018), allele 2 of IL-1RN (1731), allele 2 of IL-1RN (1812), allele 2 of IL-1RN (1868), allele 2 of IL-1RN (1887), allele 2 of IL-1RN (8006), allele 2 of IL-1RN (8061), allele 2 of IL-1RN (9589), allele 2 of IL-1A (+4845), allele 3 of IL-1A (222/223), allele 3 of IL-1A (gz5/gz6), allele 2 of IL-1A (-889), allele 1 of IL-1B (-511), allele 4 of gaat.p33330, allele 6 of Y31, allele 1 of IL-1RN (+2018), allele 2 of IL-1B (+6912), allele 2 of TNFA (-308), allele 2 of TNFA (-238), and allele 2 of IL-13 (+2581).

20. (Previously presented) A method of claim 16, wherein said inflammatory disease-associated genotype is associated with a predisposition to a disease selected from the group consisting of periodontal disease, coronary artery disease, atherosclerosis, Alzheimer's disease, osteoporosis, insulin-dependent diabetes, diabetic retinopathy, end-stage renal disease, diabetic nephropathy, hepatic fibrosis, alopecia areata, Graves' disease, Graves' opthalmopathy, extrathyroid disease, systemic lupus erythematosus, lichen sclerosis, rheumatoid arthritis, juvenile chronic arthritis, gastric cancer, ulcerative colitis, asthma, multiple sclerosis, interstitial lung disease, idiopathic pulmonary fibrosis, sepsis and acne.

21. (Previously presented) A method of claim 16, wherein said subject is homozygous for an allele selected from the group consisting of: allele 1 of IL-1A (+4845), allele 4 of IL-1A (222/223), allele 4 of IL-1A (gz5/gz6), allele 1 of IL-1A (-889), allele 2 of IL-1B (-511) , allele 3 of gaat.p33330, allele 3 of Y31, allele 2 of IL-1RN (+2018), allele 2 of IL-1RN (1731), allele 2 of IL-1RN (1812), allele 2 of IL-1RN (1868), allele 2 of IL-1RN (1887), allele 2 of IL-1RN (8006), allele 2 of IL-1RN (8061), allele 2 of IL-1RN (9589), allele 2 of IL-1A

(+4845), allele 3 of IL-1A (222/223), allele 3 of IL-1A (gz5/gz6), allele 2 of IL-1A (-889), allele 1 of IL-1B (-511), allele 4 of gaat.p33330, allele 6 of Y31, allele 1 of IL-1RN (+2018), allele 2 of IL-1B (+6912), allele 2 of TNFA (-308), allele 2 of TNFA (-238), and allele 2 of IL-13 (+2581).

22. (Previously presented) A method of claim 16, wherein said biomarker is selected from the group consisting of: IL-1α production, IL-1β production, prostanoid production, TNFα production, large-scale gene transcript level analysis, and large-scale protein level analysis.

23. (Previously presented) A method of claim 16, wherein said cell is an immune cells.

24. (Cancelled).

25. (Cancelled)

26. (Previously presented) A method of claim 16, wherein said inducer is a substance known to activate IL-1 production in monocytes or macrophages.

27. (Previously presented) A method of claim 16, wherein said inducer is selected from the group consisting of a lipopolysaccharide, concanavalin A, phytohemagglutinin, phorbol myristic acid (PMA), a calcium ionophore, interferon gamma, interleukin-12, interleukin-1, TNFα, UV radiation, and ionizing radiation.

28. - 37. (Cancelled)